

# Notice of Allowability

Application No.

09/901,121

Examiner

Nelson Yang

Applicant(s)

CHU, WEI-SING

Art Unit

1641

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/10/05.
2. ☒ The allowed claim(s) is/are 38-58, 61, 64, 65, 68 and 69, renumbered 1-28 respectively.
3. ☒ The drawings filed on 10 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Barbara Walker on August 4, 2005.

1. The application has been amended as follows:

Please cancel claims 40, 92.

Claim 38 has been replaced as follows:

A method of analyzing a sample, wherein said method comprises:

providing said sample;

applying ultrasound at a frequency of at least 100 kHz to said sample while preparing and performing an analysis step on said sample, said analysis step selected from the group consisting of immunohistochemistry, in situ hybridization, fluorescent in situ hybridization, Southern hybridization, Northern hybridization, Western annealing, and ELISA;

and detecting the results of said process after application of ultrasound.

Claim 39 has been replaced as follows:

The method of claim 38 wherein said analysis step is performed on a solid phase, selected from the group consisting of a tissue section, a sample in a microarray, a sample bound to a chip, and a sample bound to a membrane.

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Claim 41 has been replaced as follows:

The method of claim 38, wherein said method is performed on a microarray, a membrane or a DNA chip and wherein said microarray, a membrane or a DNA chip receives ultrasound power of at least  $0.01 \text{ W/cm}^2$ .

Claim 45 has been replaced as follows:

The method of claim 38, wherein said method is performed on a solid phase and uses one or more ultrasound transducers to produce an ultrasound field that allows at least a portion of said solid phase to receive a uniform frequency and intensity of ultrasound.

Claim 48 has been replaced as follows:

The method of claim 45, wherein said solid phase comprises a tissue section or a sample bound to a membrane.

Claim 53 has been replaced as follows:

The method of claim 38, wherein a range of ultrasound frequencies is applied to said sample.

Claim 54 has been replaced as follows:

The method of claim 45, wherein a plurality of transducers are arranged around said solid phase in a two-dimensional arrangement.

Claim 55 has been replaced as follows:

The method of claim 45, wherein a plurality of transducers are arranged around said solid phase in a three-dimensional arrangement.

Claim 56 has been replaced as follows:

The method of claim 45, wherein said solid phase is rotated.

Claim 57 has been replaced as follows:

The method of claim 45 wherein said transducer revolves around said solid phase.

Claim 69 has been replaced as follows:

The method of claim 39, wherein said method is performed on a solid phase, wherein said solid phase receives ultrasound of a power in the range of 0.01-100 W/cm<sup>2</sup>.

2. The following is an examiner's statement of reasons for allowance: While assay techniques such as immunohistochemistry, in situ hybridization, fluorescent in situ hybridization, Southern hybridization, Northern hybridization, Western annealing, and ELISA are well known in the art, the step of apply ultrasound at a frequency of at least 100 kHz while preparing and performing the process is novel. While the prior art do use ultrasound, it is only during the detection step (as seen in US 4,271,842) or occurs at a frequency below 100kHz (as seen in US 4,615,984, US 6,812,470).
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is (571) 272-0826. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

5. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson Yang  
Patent Examiner  
Art Unit 1641

  
LONG V. LE.  
SUPERVISORY PATENT EXAMINER  
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06/07/05